National Highway Traffic Safety Administration

49 CFR Part 571

[Docket No. NHTSA-2021-0004]

RIN 2127-AL88

Federal Motor Vehicle Safety Standards; Compressed Natural Gas Fuel Container Integrity

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: This final rule amends the visual inspection labeling requirement in Federal Motor Vehicle Safety Standard (FMVSS) No. 304, "Compressed natural gas fuel container integrity," by modifying the periodic inspection interval for compressed natural gas (CNG) fuel containers installed on vehicles with a gross vehicle weight rating (GVWR) greater than 4,536 kilograms (10,000 pounds). The inspection interval for these vehicles is modified from the currently-specified interval, "at least every 36 months or 36,000 miles, whichever comes first," to "at least every 12 months." For commercial operators of CNG heavy vehicles that often travel 100,000 miles per year or more, this change will eliminate the need to perform unnecessary multiple visual inspections of their vehicles' CNG fuel containers per year. NHTSA believes this final rule is equally protective of safety as the cadence of inspection required by the current rule. This rulemaking commenced in response to petitions for rulemaking from the American Trucking Associations and Natural Gas Vehicles for America.

DATES: *Effective date*: This final rule is effective [INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER].

Compliance date: The compliance date for the amendments in this final rule is March 14, 2023. Optional early compliance is permitted.

Petitions for reconsideration: Petitions for reconsideration of this final rule must be received not later than [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Petitions for reconsideration of this final rule must refer to the docket and notice number set forth above and be submitted to the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue, S.E., Washington, D.C. 20590. Note that all petitions received will be posted without change to http://www.regulations.gov, including any personal information provided. All submissions will be placed in the docket for this rulemaking. For more information, please see the Privacy Act heading under Rulemaking Analyses and Notices.

FOR FURTHER INFORMATION CONTACT: Mr. Ian MacIntire, Office of Crashworthiness Standards; telephone: 202-493-0248; facsimile: 202-493-2990, or Mr. Daniel Koblenz, Office of Chief Counsel; telephone: 202-366-2992; facsimile: 202-366-3820. The mailing address for these officials is: National Highway Traffic Safety Administration, 1200 New Jersey Avenue, S.E., Washington, D.C. 20590.

SUPPLEMENTARY INFORMATION:

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I. Introduction

NHTSA is issuing this final rule to amend the periodic inspection interval (i.e., inspections that occur on a schedule, rather than after an incident) stated on the visual inspection label that is required under paragraph S7.4 of FMVSS No. 304, "Compressed natural gas fuel container integrity." Under the current standard, CNG fuel containers must be permanently affixed with a label that states, among other things, that the container should be visually inspected after a motor vehicle accident or fire and at least every 36 months or 36,000 miles, whichever comes first, for damage and deterioration (S7.4(g)). The statement is required regardless of the vehicle's GVWR. NHTSA has determined that, although the label's recommended inspection intervals are appropriate for CNG light vehicles (i.e., vehicles with a GVWR less than or equal to 4,536 kilograms (kg) (10,000 pounds (lb)), they are inappropriate for CNG heavy vehicles (i.e., vehicles with a GVWR greater than 4,536 kg), which are generally driven many more miles per year than light vehicles.

NHTSA has reached this conclusion because the driving patterns and conditions under which CNG heavy vehicles travel are very different from those of CNG light vehicles, making the current time and mileage intervals inappropriate for CNG heavy vehicles. CNG light vehicles are typically used in commercial and non-commercial applications for which their annual Vehicle Miles Travelled (VMT) is between 10,000 miles and 12,000 miles. By contrast, CNG heavy vehicles are used almost exclusively in commercial operations in which their annual VMT is much higher, with the annual VMT of the heaviest CNG vehicles often exceeding 100,000 miles. Per accepted industry practice and State-imposed inspection requirements,[1] commercial operators of high-mileage CNG vehicles typically inspect their vehicles in accordance with the inspection interval printed on the container's label. As the current label

[1] As we noted in the NPRM, at least 20 States have adopted into law National Fire Protection Association (NFPA) Code 52, "Vehicular Natural Gas Fuel Systems," which specifies that operators of commercial vehicle visually inspect CNG fuel containers in accordance with the visual inspection label permanently affixed to the container per FMVSS No. 304.

indicates that operators should perform visual inspections every 36,000 miles, this amounts to multiple inspections per year.

CNG fuel container failures are extremely rare occurrences, and NHTSA is not aware of any data or analyses suggesting that performing multiple visual inspections of CNG fuel containers per year has made failures less likely to occur. The agency requested information on this subject, but the proposal only received six comments, five of which were from industry stakeholders that supported the revision and one was from an individual commenter who also supported the rule, and none of these commenters provided any information on this question. In view of this information, NHTSA has concluded that there is not a safety need for commercial operators of high-mileage CNG heavy vehicles to conduct multiple visual inspections of their vehicles' CNG fuel containers per year. This final rule amends the visual inspection label by eliminating the mileage interval for CNG heavy vehicles, and amending the time interval for these vehicles to once every 12 months. NHTSA believes 12 months is an appropriate interval because the Agency is not aware of any evidence that a more frequent inspection interval would have a safety benefit. Furthermore, a 12-month interval aligns the FMVSS No. 304 visual inspection label with the Federal Motor Carrier Safety Administration's (FMCSA) inspection regulations, which require that commercial vehicles, including fuel systems, be inspected annually.

II. NPRM

NHTSA initiated this rulemaking in response to two petitions for rulemaking the Agency received in 2016 from the American Trucking Associations (ATA)[2] and Natural Gas Vehicles for America (NGV America),[3] both of which requested that NHTSA address the issue of

[2] According to its website, ATA is the largest national trade association for the trucking industry and covers every type of motor carrier in the U.S.

[3] According to its website, NGV America is a trade association that represents companies, environmental groups, and organizations interested in the promotion and use of natural gas as motor fuel.

potentially too-frequent visual inspections by eliminating the mileage interval on the visual inspection label required under S7.4 (g) of FMVSS No. 304.

FMVSS No. 304 requires each CNG fuel container to be permanently labeled with the information specified in paragraphs (a) through (h) of S7.4. Currently, paragraph S7.4(g) specifically requires this label to include the following statement:

> This container should be visually inspected after a motor vehicle accident or fire and at least every 36 months or 36,000 miles, whichever comes first, for damage and deterioration.

After receiving the petitions from ATA and NGV America, NHTSA conducted an analysis of whether the current 3-year/36,000-mile visual inspection interval would be appropriate for CNG heavy vehicles, and if not, what an appropriate interval would be. The current inspection interval was chosen based on an analysis of CNG light vehicles, which are driven around 10,000 to 12,000 miles annually in both commercial and non-commercial contexts, which works out to approximately one inspection every three years for these vehicles. Because CNG heavy vehicles are expected to be used in exclusively commercial applications and typically have higher annual VMTs than their light vehicle counterparts, a 3-year/36,000-mile visual inspection interval could equate to up to 2-3 visual inspections per year. Further, as it is accepted industry practice (and, in many States, a requirement) for commercial CNG vehicle operators to follow the visual inspection label required under FMVSS No. 304, these commercial operators are generally conduct these multiple inspections.

The visual inspection is a detailed inspection of the fuel container and its components.[4] According to the NGV America guidance on the detailed visual inspection, shielding, enclosures, and coverings, as well as any system access panels are removed. The CNG fuel container and components are inspected for any damage including dents, gouges, scrapes, cuts, abrasions,

[4] Compressed Natural Gas Fuel System Inspection Guidance, NGV America Technology and Development Committee, https://ngvam.wpengine.com/wp-content/uploads/2019/11/CNG-Vehicle-Fuel-System-Inspection-Guidance-1.pdf.

discoloration, heat damage, and any form of corrosion. The valves and valve covers are inspected for signs of wear, damage, or leakage.

As part of its analysis into the net safety benefits of multiple annual inspections, NHTSA reviewed a 2013 report sponsored by FMCSA on CNG fuel container safety.[5] The report summarized the findings of a study investigating how to improve CNG-related regulations. In this report, the authors (who were contractors for FMCSA) recommended the removal of the mileage interval from the required visual inspection label since it was not intended for high-mileage commercial vehicles and because the study participants stated that multiple visual inspections per year to be "burdensome and unnecessary."

NHTSA also analyzed data on all CNG fuel container failures from 1984 to 2015 (the most recent data available).[6] NHTSA's analysis of the CNG fuel container failures found that, over this period, there have been a total of only 16 CNG fuel container failures in the United States in the 32-year period, most of which were caused by problems other than those detectable through a visual inspection, such as crashes, design flaws, or over-pressurization.[7] In fact, based on available information, it is not clear that any of these failures could have been prevented by the periodic visual inspections. Although periodic visual inspections could potentially detect problems such as gouging on the container surface from the mounting brackets, general damage from roadside debris, external corrosion, and damage to valves, such factors were not related to these 16 container failures. Periodic visual inspections would not protect against the possibility of failure due to over-pressurization or internal corrosion, and do not prevent container failures

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[5] FMCSA-RRT-13-044, "Natural Gas Systems: Suggested Changes to Truck and Motorcoach Regulations and Inspection Procedures," March 2013, https://rosap.ntl.bts.gov/view/dot/83.

[6] The source of this data was the Clean Vehicle Education Foundation (CVEF) Master Incident List, which provides information about all reported CNG incidents in the world through 2015. The CVEF Master Incident List is maintained by NGV America. A copy of the CVEF Master Incident List is available in the docket indicated in the heading of this notice.

[7] Among the 16 CNG fuel container failures, eight were caused by stress corrosion cracking from exposure to chemicals and acid that resulted in degradation of the glass fibers used in some container designs. In 2001, the American National Standards Institute (ANSI) revised the NGV 2 standard to address this issue, and there have been no reported failures of this type since. Of the remaining eight failures, two were caused by failure of pressure relief devices (PRD) to operate in a fire, one was caused by over-pressurization by faulty fueling systems, three were caused by a combination of stress corrosion cracking, physical damage, and over-pressurization, and two container failures were caused by physical damage due to impact in vehicle crashes.

in a vehicle collision or fire. As this dataset did not state how recently or frequently the CNG fuel containers had been visually inspected prior to failure, NHTSA could not draw any conclusions from it relating to the appropriate frequency of visual inspections for fuel containers on heavy CNG vehicles. However, the extreme infrequency of CNG container failures over the 32-year period,[8] and the absence of failures that might have been prevented by way of a more frequent than annual visual inspection, suggest there is not a safety need to conduct multiple visual inspections of CNG containers per year.

On June 21, 2019, NHTSA published the NPRM preceding this final rule, proposing to amend the statement required under S7.4(g) so that it includes separate, discrete periodic inspection intervals for light and heavy CNG vehicles.[9] NHTSA proposed that the inspection interval for CNG fuel containers installed on light vehicles would be unchanged from the current standard, whereas the inspection interval for CNG fuel containers installed on heavy vehicles would be changed to at least once every 12 months, with no mileage interval.

Given the absence of evidence of any increased safety risk associated with performing just one (rather than multiple) inspection per year, NHTSA tentatively concluded in the NPRM that the 3-year/36,000-mile visual inspection interval on the label is not justified by a safety benefit. Accordingly, NHTSA tentatively concluded that changing the label to recommend a 12-month inspection interval, without a mileage interval, eliminated the need to conduct unnecessary visual inspections. An annual inspection interval would also have the advantage of synchronizing the label's inspection interval with FMCSA regulations that state that commercial vehicles must be inspected annually, thus limiting the cost of compliance with the label's recommendations.[10]

III. Summary of and Response to Comments

[8] There are too few container failures to evaluate annual trends.
[9] 84 FR 29145.

NHTSA received six comments in response to the NPRM. The comments were submitted by the two petitioners (NGV America and ATA), the National Waste & Recycling Association (NWRA),[11] Hexagon Mobile Pipeline LLC (Hexagon),[12] Agility Fuel Solutions LLC (Agility),[13] and one individual.

The commenters uniformly supported the adoption of the proposed rule, and voiced agreement with NHTSA's analysis and conclusions regarding the costs and safety impacts on operators of CNG heavy vehicles of changing the visual inspection label. NWRA requested that NHTSA impose an inspection documentation requirement. NHTSA has not adopted such a requirement in the final rule, as doing so would be both beyond the scope of this rulemaking, and beyond NHTSA's authority. Adding an inspection documentation requirement would not be in the scope of this rulemaking because we did not propose, or seek comment on, the establishment of an inspection documentation requirement. Such a requirement would be beyond NHTSA's authority because NHTSA is not authorized to enforce inspection requirements for commercial operators of CNG vehicles. NHTSA does not regulate how motor vehicles or motor vehicle equipment are used and maintained by commercial operators.

Agility suggested several changes to the proposed regulatory text that it believed would improve the readability of the visual inspection label without making substantive changes. We have decided not to adopt these changes. First, we do not have evidence indicating that replacing "motor vehicle accident" with "accident" would be meaningful. We have treated those terms as interchangeable in previous FMVSS No. 304 rulemakings relating to the inspection label.[14] Second, we believe that placing the phrase "at least" before the list of periodic inspection intervals could cause confusion because the label would read as though both "(a)" and "(b)" of

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[11] As self-described on its website, NWRA is a trade association representing nearly 70 percent of the private sector waste and recycling industry. Its nearly 700 members operate in all 50 States and the District of Columbia and are a mix of publicly-traded and privately-owned local, regional, and Fortune 500 national and international companies.
[12] As self-described on its website, Hexagon produces high-pressure composite storage cylinders and transportation modules for CNG and biogas.
[13] As self-described on its website, Agility is a global provider of clean fuel "solutions" for medium and heavy duty commercial vehicles.
[14] See, e.g., 60 FR 57943.

the regulatory text could apply to the same vehicle, which is not correct because the two different inspection intervals apply to different weight classes. Finally, we believe that the change to the description of the weight class in (b), while shorter than the proposed regulatory text, would reduce clarity of the label by eliminating the parallel sentence structures of (a) and (b).

IV. Final Rule

After considering the information submitted by the petitioners and the comments received, we are adopting the changes to the visual inspection label proposed in the NPRM. Under this final rule, the portion of the label describing the recommended periodic inspection interval is bifurcated into separate instructions for light and heavy vehicles.

For light vehicles, the time and mileage inspection intervals are unchanged from the current S7.4(g) (every 3 years or 36,000 miles), since NHTSA believes the intervals described in the current S7.4(g) are still appropriate for light vehicles.[15] However, for heavy CNG vehicles, the label would describe a periodic inspection interval of once per year, with no mileage interval. As noted earlier, this interval for heavy CNG vehicles is consistent with FMCSA's annual inspection interval for commercial vehicles. NHTSA has concluded that this rule is not anticipated to have an impact on vehicle safety. As we explained earlier and in the NPRM, NHTSA is not aware of any evidence that multiple visual inspections of CNG fuel containers per year provides a safety benefit.

NHTSA recognizes that, for *low-mileage* heavy CNG heavy vehicles, the amended label could result in more frequent inspections than now specified under the current label. This is

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[15] As explained in the NPRM, the time and mileage intervals on the current visual inspection label were based on the best field data available on CNG vehicles at the time FMVSS No. 304 was established in 1995. 61 FR 47086, September 6, 1996. Because, at that time the CNG fleet primarily consisted of light vehicles, this field data reflected the driving patterns of light vehicles, which typically have an annual VMT of approximately 10,000 to 12,000 miles. More recent data on VMT collected by the U.S. Federal Highway Administration (FHWA) shows that the annual VMT for light vehicles has not changed, with annual light vehicle VMT holding steady at about 11,000 miles for both 2014 and 2015. Data obtained from the FHWA Office of Highway Policy Information – Annual Vehicle Distance Traveled in Miles and Related Data – 2015 by Highway Category and Vehicle Type. https://www.fhwa.dot.gov/policyinformation/statistics/2015/vm1.cfm. As there has not been a major change to the driving patterns of CNG light vehicles since NHTSA established FMVSS No. 304, and NHTSA is not otherwise aware of evidence suggesting that the 3-year/36,000-mile inspection interval is no longer appropriate for CNG light vehicles, NHTSA did not change the inspection interval for light vehicles.

because under the existing label, the vehicles do not have to have a yearly inspection if they are used less than the 12,000 miles a year (on average), while under the revised label, a yearly inspection is specified, regardless of mileage. Two of the commenters, Hexagon and NGV America, addressed this issue and supported the proposed inspection interval for low-mileage vehicles as well. Hexagon stated that an inspection interval of one year was beneficial for low-mileage commercial CNG heavy vehicles because low-mileage commercial operations that use CNG heavy vehicles, such as refuse collection,[16] have more incidents than other sectors. NGV America stated that low-mileage commercial operations often operate in rigorous environmental conditions warranting a yearly inspection, and, moreover, are already subject to the FMCSA's requirement that commercial vehicles undergo an annual inspection.[17] Thus, as these commenters concurred that a one-year inspection interval is appropriate even for low-mileage CNG heavy vehicles, NHTSA concludes the proposed labeling requirement is appropriate for these vehicles as well.

Given the infrequency with which CNG failures currently occur, the Agency believes that conducting multiple visual inspections of CNG containers per year on heavy vehicles is unnecessary. That said, the contrary is not supported—NHTSA has *not* made a determination that fewer than one visual inspection per year *is* supported. In addition, the Agency lacks field data to support recommending a longer visual inspection interval, such as every 3 years or 5 years, and received no feedback or data from commenters that would advocate for such a change. Because heavy vehicles in commercial fleets tend to travel significantly more miles than light vehicles, the CNG fuel containers on heavy vehicles may be exposed to more wear and tear in a given period of time than CNG fuel containers on light vehicles. Accordingly, NHTSA concludes that an annual visual inspection interval is more appropriate than a less frequent interval as inspectors are more likely in an *annual* inspection cycle to identify and remedy

[16] We note that the comment from the National Waste and Recycling Association, which represents the commercial operators of waste collection trucks, indicated its support of the proposed amendments to the visual inspection label.
[17] Agility also commented in support of a 12-month inspection interval for low-mileage CNG commercial vehicles.

damage to the CNG fuel container and fuel system than compared to, say, a 3-year or 5-year inspection interval.

The CNG industry (including container manufacturers, vehicle integrators, CNG vehicle fleet operators) agree that an annual visual inspection of CNG containers on heavy vehicles would reduce inspection costs without a reduction in safety.

V. Analysis of Costs and Benefits

Because NHTSA does not expect this rule to affect vehicle safety, the net benefit of this rule is a reduction in costs to operators of CNG heavy vehicles who will no longer perform multiple visual inspections per year. The magnitude of this reduction in costs depends on the size of the CNG heavy vehicle fleet, the number of excess visual inspections that are performed based on the suggestion on the current label's mileage interval, and the cost of conducting those additional visual inspections. Note that, for purposes of estimating costs and benefits, CNG heavy vehicles were broken down into two categories: CNG medium duty vehicles (with a GVWR greater than 4,536 kg (10,000 lb) and less than or equal to 11,793 kg (26,000 lb)) and CNG heavy duty vehicles (with a GVWR greater than 11,793 kg).

NHTSA estimated the size of the CNG heavy vehicle fleet, which consists of CNG medium duty vehicles and CNG heavy duty vehicles, using data from NGV America.[18] According to NGV America, there are approximately 25,800 CNG medium duty vehicles and 39,500 CNG heavy duty vehicles currently in operation in the United States.

NHTSA estimated the annual average VMT for CNG heavy vehicles by using a published business model that estimates the minimum annual average VMT that a CNG heavy

[18] As we explained in the NPRM, although both NGV America and the U.S. Energy Information Agency (EIA) tracks the size of the CNG vehicle fleet, NHTSA believes that NGV America's estimate is more accurate than EIA's because NGV America bases its estimates on data obtained from its members, whereas EIA bases its estimates on vehicle registration data obtained from States. NHTSA believes that using vehicle registrations to estimate the size of the CNG vehicle fleet would systematically undercount the number of CNG vehicles because many States do not require fuel type to be noted on the vehicle registration, and because many CNG heavy vehicles operating today were converted from diesel-fueled vehicles after the first vehicle purchase. The NGV America fleet and sales data from December 2014 is available at https://www.ngvamerica.org/wp-content/uploads/2018/09/2014-NGV-Production-and-Sales-Report.pdf.

vehicle operator would be required to maintain to achieve a 20 percent return on investment for converting a diesel heavy vehicle to use CNG.[19] According to this model, if the per-gallon price of diesel is $1.25 more than the per-diesel gallon equivalent (DGE) for CNG, the required average annual VMT required to maintain a 20 percent return on investment is 75,000 miles for CNG medium duty vehicles, and 125,000 miles for CNG heavy duty vehicles.[20] As discussed above, commenters supported NHTSA's assumption in the NPRM that inspections would generally be performed as suggested on the label. Using the more conservative estimate of 108,000 VMT for CNG heavy duty vehicles and 72,000 VMT for CNG medium duty vehicles, we estimate that, under the current 36,000-mile mileage interval, a CNG heavy duty vehicle would be inspected 3 times per year (108,000 ÷ 36,000 = 3), and a CNG medium duty vehicle would be inspected two times per year (72,000 ÷ 36,000 = 2).

NHTSA estimated the per-inspection cost of visual inspections using information provided by ATA in its petition for rulemaking. According to ATA, visual inspections cost between $200 and $500 per vehicle, and require a CNG vehicle to have a 2-day downtime for the inspection at a cost of about $150 per day.[21] Based on these estimates, NHTSA calculated the cost of a single inspection to be $500 ($200 + $150 × 2) to $800 ($500 + $150 × 2), with an average of $650 ($350 + $150 × 2).

As previously mentioned, NGV America's production and sales report estimated the inventory of medium duty and heavy duty CNG vehicles was 25,800 and 39,500, respectively, in

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[19] Dee, Anna Lea, "What Set of Conditions Would Make the Business Case to Convert Heavy Trucks to Natural Gas? – a Case Study," National Energy Policy Institute, 2012. This model accounts for several factors that affect return on investment, including the capital investment required to convert a diesel vehicle to run on CNG; the relative costs of fueling infrastructure and vehicle maintenance between CNG and diesel vehicles; and the relative fuel economy of CNG and diesel vehicles.

[20] According to the Department of Energy, the price of diesel fuel at the time of this analysis was $3.08 per gallon, whereas the price of CNG was $2.49 per diesel gallon equivalent (DGE)—a differential of $0.59. See https://afdc.energy.gov/files/u/publication/alternative_fuel_price_report_oct_2019.pdf. Because fuel prices tend to fluctuate over time, our analysis here assumes a price differential of $1.25, which is the same as the analysis in the NPRM.

[21] This cost includes inspection by a trained and qualified inspector and removal and replacement of shields or covers of the CNG fuel containers before and after the inspection. The downtime cost is also assumed that the inspection will occur when the vehicle would otherwise be in-use, not, for example, if it is out of service for some other reason (e.g., if the inspection occurs on the weekend or when a particular fleet vehicle is not required to be in use).

2014. NHTSA believes these estimates are the most accurate available for the CNG industry, and therefore assumes these figures as the average annual inventory for CNG heavy vehicles. As we noted in the NPRM, our analysis may be a low estimate of the total cost saving because projections indicate the annual sale of CNG heavy vehicles used in commercial fleets will increase to 68,000 in 2040, which would lead to a significant increase in the number of these vehicles in the overall heavy vehicle fleet.[22, 23]

Using the above estimates, NHTSA calculated the total annual cost savings from reduced number of visual inspections of CNG containers in the CNG heavy vehicle fleet, regardless of whether the container has the current visual inspection label or the new modified label. Again, this analysis assumes that the heavy vehicle fleet size remains unchanged in the future. With these assumptions along with inspection cost estimates, the potential total annual cost savings due to reduced number of CNG fuel container inspections range between $52.40 million to $83.84 million with an average cost savings of $68.12 million, as shown in Table 1. Because these estimated annual cost savings are constant across all years into the future, annualized values are similar for all discount rates, as shown in Table 2. As noted above, since the CNG heavy vehicle fleet size is expected to increase in the future, the annual cost savings presented in Table 1 are conservative.

Table 1. Annual cost savings from conducting yearly inspection of all CNG containers on the CNG heavy vehicle fleet (2020$)

	Cost of Inspection		
	Low	Average	High
Cost of Single Inspection (a)	$500	$650	$800
Number of CNG Heavy Duty Vehicles (b)	39,500	39,500	39,500
Number of CNG Medium Duty Vehicles (c)	25,800	25,800	25,800
Number of Inspections Reduced Per Year for Heavy Duty Vehicles (d)	2	2	2
Number of Inspections Reduced Per Year for Medium Duty Vehicles (e)	1	1	1

[22] Baker, et al., "Alternative Fuel Vehicle Forecasts (April 2016)," Texas A&M Transportation Institute, https://static.tti.tamu.edu/tti.tamu.edu/documents/PRC-14-28F.pdf.

[23] While NHTSA did not use the AEO2017 data in its cost/benefit analysis due to underreporting of the current size of the CNG fueled heavy vehicle fleet, we note that the AEO2017 data estimates an increase in the CNG medium and heavy duty vehicle fleet by 2040. According to AEO2017 projected estimates, there would be 16,335 CNG medium duty vehicles and 74,469 CNG heavy duty vehicles in 2040. By contrast, the AEO2017 estimates that in 2015, there were 2,150 CNG medium duty vehicles and 22,350 CNG heavy duty vehicles.

Cost Reduction for Heavy Duty Vehicles (f) = (a)x(b)x(d) in Millions	$39.50	$51.35	$63.20
Cost Reduction for Medium Duty Vehicles (g) =(a)x(c)x(e) in Millions	$12.90	$16.77	$20.64
Total Annual Cost Saving (f)+(g) in Millions	**$52.40**	**$68.12**	**$83.84**

VI. Compliance Date

Because this final rule will eliminate the current requirement that results in multiple visual inspections per year for heavy vehicles in favor of a requirement for an equally safety protective annual inspection, we believe a mandatory compliance date of one year after the date of publication of this document in the Federal Register is appropriate, with optional early compliance permitted. We believe one year is sufficient time to make needed changes to the visual inspection label for CNG fuel containers with no additional cost, and that permitting early compliance will provide manufacturers with flexibility.

We note that, while this rule does not apply retroactively to containers manufactured before the mandatory compliance date, there may be instances in which an operator may want to replace a previously-existing visual inspection label with a new label with the amended time interval. As to whether such a replacement would be a violation of the "make inoperative" provision of the Safety Act, our answer is no, assuming the container will be permanently labeled with the new label as specified in S7.4 and contains all the information required by S7.4. 49 U.S.C. 30122 states, in relevant part: "A manufacturer, distributor, dealer, rental company, or motor vehicle repair business may not knowingly make inoperative any part of a device or element of design installed on or in a motor vehicle or motor vehicle equipment in compliance with an applicable motor vehicle safety standard." Replacing the previously-existing label with the new label by an entity listed in § 30122 would not be a violation of the make inoperative provision because the new label serves the same function and safety need as the previous label, only more efficiently. Both labels inform the operator of how frequently CNG fuel containers should be inspected, with the new label reflecting the need for motor vehicle safety more

accurately. Thus, replacing the label does not make inoperative a device or element of design installed on or in the vehicle in compliance with FMVSS No. 304.[24]

VII. Regulatory Notices and Analyses

Executive Order (E.O.) 12866, E.O. 13563, and DOT Rulemaking Procedures

NHTSA has considered the impact of this final rule under Executive Orders 12866 and 13563, and the Department of Transportation's administrative rulemaking procedures. This final rule was deemed to be non-significant under Executive Order 12866 by the Office of Information and Regulatory Affairs, and is not considered a rulemaking of special note to the Department under DOT Order 1200.6A.

NHTSA is modifying the required label for visual inspection of CNG fuel containers to specify that the container should be visually inspected for damage and deterioration after a motor vehicle accident or fire, and either (a) at least every 12 months when installed on a vehicle with a GVWR greater than 4,536 kg or (b) at least every 36 months or 36,000 miles, whichever comes first, when installed on a vehicle with a GVWR less than or equal to 4,536 kg. NHTSA has not found any evidence that this change will impact motor vehicle safety. NHTSA believes that the only substantive effect of this final rule will be to eliminate unnecessary visual inspections of CNG fuel containers by operators of high-mileage CNG heavy vehicles and align the CNG container inspections for low-mileage CNG heavy vehicles with FMCSA's annual inspection interval.

NHTSA estimates the change will reduce the number of visual inspections per year by approximately 2 inspections for heavy duty CNG vehicles and by approximately 1 inspection for medium duty CNG vehicles. The agency further estimates that the elimination of these visual

[24] 49 U.S.C. 30122. Note that the "make inoperative" prohibition applies only to manufacturers, distributors, dealers, rental companies, and motor vehicle repair businesses; it would not apply to a commercial operator of a CNG vehicle modifying his or her own vehicle.

inspections will result in an average annual cost savings of $68.12 million, assuming the current CNG heavy vehicle fleet size remains unchanged.

Regulatory Flexibility Act

Pursuant to the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to publish a notice of proposed rulemaking or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small governmental jurisdictions) unless the head of an agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The Small Business Administration's regulations at 13 CFR part 121 define a small business, in part, as a business entity "which operates primarily within the United States." (13 CFR part 121.105(a)). SBREFA amended the Regulatory Flexibility Act to require Federal agencies to provide a statement of the factual basis for certifying that a proposed or final rule will not have a significant economic impact on a substantial number of small entities.

I certify that this final rule will not have a significant impact on a substantial number of small entities. There are two types of businesses that will potentially be impacted by this rule: manufacturers of CNG fuel containers and commercial operators of CNG heavy vehicles. Small manufacturers of CNG fuel containers are directly impacted by this rule because they are required to modify the language on the visual inspection label. However, as the label itself is already required (only the wording is changing), NHTSA expects this to be a negligible, one-time expense for these businesses. As explained in earlier in this Notice, commercial operators of CNG heavy vehicles are indirectly impacted by this rule because the amended visual inspection label will indirectly cause the elimination of multiple unnecessary visual inspections these businesses must perform per year. Small operators of CNG heavy vehicles will likely see a reduction in maintenance costs because of a reduced number of CNG fuel container inspections.

However, NHTSA does not believe those cost impacts will be significant, because the cost savings from reduced inspections would be a small percentage of the overall operational cost of the vehicle. To illustrate, according to AEO, a medium duty CNG vehicle fuel efficiency is 6.9 mpg, and that for heavy vehicle is 5.7 mpg (gasoline gallon equivalent). The cost of CNG fuel is $2.27/gasoline gallon equivalent. A heavy duty truck traveling 108,000 miles per year spends $43,010 (=108,000/5.7*$2.27) on fuel alone. The cost savings of doing annual inspections for a heavy duty vehicle is estimated at $1,300 per year. This annual savings is only 3 percent of fuel costs. A medium duty truck traveling 72,000 miles per year spends $23,686 (=72,000/6.9*2.27) on fuel alone. The cost savings of doing annual inspections for a medium duty vehicle is estimated at $650. This annual savings would be only 2.7 percent of fuel costs.

The above comparison is limited to fuel costs. There are other operational costs that have not been accounted for which would make the savings from reduced inspections to be even less than 3 percent compared to the cost of operating the vehicles.

National Environmental Policy Act

NHTSA has analyzed this rulemaking action for the purposes of the National Environmental Policy Act (42 U.S.C. §§ 4321 et seq.), as amended. The Agency has determined that implementation of this action will not have a significant impact on the quality of the human environment. The rule merely reduces the number of visual inspections that commercial operators of high-mileage CNG heavy vehicles will have to conduct.

Reducing the number of inspections would reduce the downtime and cost of operation of these vehicles. On the days that a CNG heavy vehicle is out-of-service for visual inspection, the operations are either stopped or continued using a conventional-fuel vehicle. As stated above, according to NGV America, there are approximately 25,800 CNG medium duty vehicles and 39,500 CNG heavy duty vehicles currently in operation in the United States. These vehicles therefore make up a very small proportion of the on-road medium and heavy duty vehicle fleet, and the change in their downtime is a very small proportion of their overall use, so any resulting

change in medium or heavy duty vehicle operation (including by the regulated vehicles) also would be very small.

NHTSA estimates that this rule would, at most, reduce the number of visual inspections a CNG operator conducts each year by two for heavy duty vehicles and by one for medium duty vehicles. Since an inspection takes one to two days to conduct, there could be at most four extra days of operation per year (2 inspections × 2 days per inspection = 4 days of additional operation) for heavy duty vehicles and two extra days of operation per year (1 inspection × 2 days per inspection) for medium duty vehicles.

Assuming trips that would otherwise be made using a CNG-fueled vehicle are instead made using a diesel-fueled vehicle when the CNG-fueled vehicle is undergoing a visual inspection, then making CNG heavy duty vehicles available for an additional four days annually and CNG medium duty vehicles available for an additional two days annually would reduce greenhouse gas (GHG) emissions, since heavy CNG vehicles have 13–17 percent fewer GHG emissions compared to diesel on a well-to-wheel basis.[25] However, on an annual basis, this reduction in GHG emissions from increased operation of CNG vehicles would be insignificant (i.e., much less than 1 percent) compared to the GHG emissions from the total U.S. heavy vehicle fleet. Similarly, anticipated changes to other air pollutant emissions would also be very small. Thus, any environmental impacts would be appropriately considered *de minimis*.

Executive Order 13132 (Federalism)

NHTSA has examined today's final rule pursuant to Executive Order 13132 (64 FR 43255; Aug. 10, 1999) and concluded that no additional consultation with States, local governments, or their representatives is mandated beyond the rulemaking process. The Agency has concluded the rule does not have sufficient federalism implications to warrant consultation

[25] Well-to-wheel refers to an analysis that accounts for all the energy and emissions necessary to produce the fuel used in the vehicle (well-to-pump) and the operation energy and emissions associated with the vehicle technology (tail pipe emissions, other emissions and energy efficiency of the vehicle).

with State and local officials or the preparation of a federalism summary impact statement. The rule does not have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government."

NHTSA rules can have preemptive effect in two ways. First, the National Traffic and Motor Vehicle Safety Act contains an express preemption provision, codified at 49 U.S.C. 30103(b)(1), stating that, when a motor vehicle safety standard is in effect, a State or a political subdivision of a State may prescribe or continue in effect a standard applicable to the same aspect of performance of a motor vehicle or motor vehicle equipment only if the standard is identical to NHTSA's standard prescribed under this chapter. It is this statutory command by Congress (and not today's final rule) that preempts any non-identical State legislative and administrative law addressing the same aspect of performance, so consultation would be inappropriate

It is this statutory command by Congress (and not today's final rule) that preempts any non-identical State legislative and administrative law addressing the same aspect of performance, so consultation would be inappropriate.

Second, the Supreme Court has recognized the possibility, in some instances, of implied preemption of State requirements imposed on motor vehicle manufacturers, including sanctions imposed by State tort law. That possibility is dependent upon there being an actual conflict between a FMVSS and the State requirement. If and when such a conflict exists, the Supremacy Clause of the Constitution makes the State requirements unenforceable. See Geier v. American Honda Motor Co., 529 U.S. 861 (2000), finding implied preemption of State tort law on the basis of a conflict discerned by the court,[26] not on the basis of an intent to preempt asserted by the agency itself.

[26] The conflict was discerned based upon the nature (e.g., the language and structure of the regulatory text) and the safety-related objectives of FMVSS requirements in question and the impact of the State requirements on those objectives.

NHTSA has considered, pursuant to Executive Orders 13132 and 12988, whether this final rule could or should preempt State common law causes of action. To this end, the Agency has examined the nature (e.g., the language and structure of the regulatory text) and objectives of this final rule and finds that this final rule is not intended to preempt State tort law that effectively imposes a higher standard on regulated entities than that would be established by today's final rule. The change in this final rule amends a labeling requirement that applies to newly manufactured CNG fuel containers; it does not conflict with the establishment of a higher standard of safety by means of State tort law that applies to the same subject matter (i.e., adequate labeling of CNG fuel containers). This rule would not preempt state inspection requirements, including those that rely on the language on the visual inspection label, because this rule does not mandate that the label be followed; states remain free to establish inspection requirements as they deem appropriate. Without any conflict, there could not be any implied preemption of State law, including State tort law.

Executive Order 12988 (Civil Justice Reform)

With respect to the review of the promulgation of a new regulation, section 3(b) of Executive Order 12988, "Civil Justice Reform" (61 FR 4729; Feb. 7, 1996), requires Executive agencies make every reasonable effort to ensure the regulation: (1) clearly specifies the preemptive effect; (2) clearly specifies the effect on existing Federal law or regulation; (3) provides a clear legal standard for affected conduct, while promoting simplification and burden reduction; (4) clearly specifies the retroactive effect, if any; (5) specifies whether administrative proceedings are to be required before parties file suit in court; (6) adequately defines key terms; and (7) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. This document is consistent with that requirement.

Pursuant to this Order, NHTSA notes as follows. The issue of preemption is discussed above. NHTSA notes further there is no requirement that individuals submit a petition for reconsideration or pursue other administrative proceedings before they may file suit in court.

Privacy Act

All submissions, including public comments on this final rule, will be placed in the docket. Anyone is able to search the electronic form of all documents received into any of our dockets by the name of the individual submitting the document (or signing the document, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the *Federal Register* published on April 11, 2000 (Volume 65, Number 70; Pages 19477–78).

Paperwork Reduction Act

Under the Paperwork Reduction Act of 1995 (PRA), a person is not required to respond to a collection of information by a Federal agency unless the collection displays a valid OMB control number. There are no information collection requirements associated with this final rule.

National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104-113, as amended by Public Law 107-107 (15 U.S.C. 272 note), directs the agency to evaluate and use voluntary consensus standards in its regulatory activities unless doing so would be inconsistent with applicable law or is otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies, such as the SAE International. The NTTAA directs us to provide Congress (through OMB) with explanations when the agency decides not to use available and applicable voluntary consensus standards.

This final rule accords with the NTTAA. FMVSS No. 304 has historically drawn largely from ANSI NGV 2. The changes in this final rule to the visual inspection label were made in

accordance with data provided by NGV America and ATA and the recommendations developed by industry technical working groups.[27]

Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (UMRA) requires Federal agencies to prepare a written assessment of the costs, benefits and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local or tribal governments, in the aggregate, or by the private sector, of more than $100 million annually (adjusted annually for inflation, with base year of 1995). UMRA also requires an agency issuing an NPRM or final rule subject to the Act to select the "least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule." This final rule would not result in a Federal mandate that will likely result in the expenditure by State, local or tribal governments, in the aggregate, or by the private sector, of more than $100 million annually (adjusted annually for inflation, with base year of 1995).

Executive Order 13609 (Promoting Regulatory Cooperation)

The policy statement in section 1 of Executive Order 13609 provides, in part: the regulatory approaches taken by foreign governments may differ from those taken by U.S. regulatory agencies to address similar issues. In some cases, differences between the regulatory approaches of U.S. agencies and those of their foreign counterparts might not be necessary and might impair the ability of American businesses to export and compete internationally. In meeting shared challenges involving health, safety, labor, security, environmental, and other issues, international regulatory cooperation can identify approaches that are at least as protective as those that are or would be adopted in the absence of such cooperation. International

[27] The NGV America Technology & Development Committee's Guidance on Fuel System Inspection published in November 2017 specifies annual visual inspection for CNG fuel containers on heavy vehicles as a practical approach to inspection and maintenance of the fuel container and fuel system which would match intervals and procedures with other vehicle maintenance tasks, such as engine oil and filter changes, that are conducted on an annual basis per FMCSR 396.17. The CSA group, which maintains NGV 2, is considering modifying the inspection interval in NGV 2 to an annual inspection following the NGV America Technology & Development Committee's Guidance document.

regulatory cooperation can also reduce, eliminate, or prevent unnecessary differences in regulatory requirements.

The European regulation for CNG vehicles, ECE R.110, "I. Specific components of motor vehicles using compressed natural gas (CNG) and/or liquefied natural gas (LNG) in their propulsion system,"[28] requires a detailed visual inspection of CNG fuel containers on vehicles at least every 48 months and after an accident or fire. However, the working pressure of CNG fuel containers in Europe is 20 Megapascals (MPa) (3,000 pounds per square inch (psi)), while that in the U.S. is typically 26 MPa (3,600 psi). The higher container pressure in the U.S. necessitates more frequent visual inspections than that conducted in Europe. Therefore, NHTSA did not consider harmonizing with ECE R.110.

Regulation Identifier Number

The Department of Transportation assigns a regulation identifier number (RIN) to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. You may use the RIN contained in the heading at the beginning of this document to find this action in the Unified Agenda.

List of Subjects in 49 CFR Part 571

Imports, Motor vehicles, Motor vehicle safety.

In consideration of the foregoing, NHTSA amends 49 CFR part 571 as follows:

PART 571—FEDERAL MOTOR VEHICLE SAFETY STANDARDS

1. The authority citation for part 571 continues to read as follows:

Authority: 49 U.S.C. 322, 30111, 30115, 30117, and 30166; delegation of authority at 49 CFR 1.95.

2. In § 571.304, revise S7.4(g) to read as follows:

§ 571.304 Standard No. 304; Compressed natural gas fuel container integrity.

[28] http://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29regs/2015/R110r3e.pdf.

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S7.4 ***

(g) The statement: “This container should be visually inspected for damage and deterioration after a motor vehicle accident or fire, and either (a) at least every 12 months when installed on a vehicle with a GVWR greater than 4,536 kg, or (b) at least every 36 months or 36,000 miles, whichever comes first, when installed on a vehicle with a GVWR less than or equal to 4,536 kg.”

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Issued under authority delegated in 49 CFR 1.95 and 501.4.

Steven S. Cliff
Deputy Administrator

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